

Description of a Previously Misidentified Species of *Epitonium*

(Gastropoda : Epitoniidae)

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(2 Text figures)

LONG CONSIDERED to be *Epitonium* (*Nitidiscala*) *barbarinum* Dall, 1919, a species common intertidally along the northern shores of the Gulf of California, Mexico, is in need of a new name. The confusion was caused by DALL'S (1921: 116) range from San Diego, California to Panama. The holotype of *E. barbarinum* (USNM 46229), type locality San Diego, California, is a specimen of *Epitonium* (*Epitonium*) *angulatum* (Say, 1830), from the Atlantic seaboard and the Gulf of Mexico. A new name is chosen herein for the small species previously known as *E. (N.) barbarinum* Dall, 1919.

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Type Locality: Puertecitos, Baja California Norte, Mexico (30°20'02"N; 114°38'08"W), collected intertidally from algae covered boulders; from under rocks edging the sand beach; dredged to 18 m, shell and sand substrate. The range of this new species is restricted on the west side of the Gulf of California from San Felipe

Epitonium (*Nitidiscala*) *arcanum* DuShane, spec. nov.

(Figure 1)

Description: Shell small in size, white; nuclear whorls 3, opaque, somewhat eroded even on live-taken material; subsequent whorls 5 to 7; spiral sculpture sometimes faint on first 2 whorls below the nuclear whorls; suture impressed but not deep; costae 13 to 17, very slightly reflected, thin-edged, heavier where they join the suture, sometimes slightly shouldered, dipping under the lip; aperture oval; lip entire, slightly patulous and without spine; operculum thin, horny, paucispiral. Length, 5 to 12 mm; width, 2 to 6 mm.

Type Material: Holotype, Los Angeles County Museum of Natural History, Type Collection no. 1264.

Paratypes: Four each will be deposited in the following institutions: American Museum of Natural History; California Academy of Sciences; Los Angeles County Museum of Natural History; Santa Barbara Museum of Natural History; United States National Museum. In addition, paratypes are in the collections of the following:



Figure 1

Epitonium (*Nitidiscala*) *arcanum* DuShane, spec. nov.

Ventral view, holotype, LACM 1264; length 9 mm; width 4 mm

Table 1

Character	<i>Epitonium arcanum</i>	<i>Epitonium tinctum</i>	<i>Epitonium angulatum</i>
Number of whorls	8-10	7-11	9-10
Sculpture of early whorls	spiral in some specimens	smooth	smooth
Number of costae	11-17	11-14+	8-12
Shape of costae	blade-like	thick, coalescing into heavier costae near the lip	blade-like, definite angle at whorl shoulder
Size variation			
length	5-12 mm	4-15 mm	13-25 mm
width	2-6 mm	1-6.5 mm	6.5-9 mm
Suture	impressed, not deep	deep	deep
Color band at suture	none	brown line in some	none
Aperture	oval, patulous	oval, patulous	subcircular, lip held away from body whorl by costae, patulous

south to 20 km S of Puertecitos, Baja California Norte, Mexico, and on the east side of the Gulf of California from Cabo Tepoca south to Punta Peñasco, Sonora, Mexico, above latitude 30°N.

Discussion: *Epitonium (Nitidiscala) arcanum* differs from *E. (N.) tinctum* (Carpenter, 1865), with which it has been compared, by having a smaller shell, a different radula, and a different geographical range. Table 1 shows other differences.

The radula of *Epitonium arcanum* indicates that dentition is in the form of 20-40 broad rows of hook-like uncini with very little variation in shape along each row. The length of the teeth varies with the position of the teeth in the row, becoming progressively shorter with the distance from the center. The obtuse angles on the teeth are variable as to their precise placement. Radula and specimen of *E. arcanum*, from Puertecitos, Baja California Norte, Mexico, are at the San Diego Natural History Museum, San Diego, California (Figure 2). In *E. tinctum*, with which it has been compared, the tips of the teeth have a bifid structure unlike any other thus far reported.



Figure 2

Epitonium (Nitidiscala) arcanum DuShane, spec. nov.

Radula: the hook-like uncini vary with their position in the row

The geographical range of *Epitonium arcanum* is in the Gulf of California, Mexico, above latitude 30° North. The range of *E. tinctum* is in the northeastern Pacific, from Bahía Magdalena, Baja California Sur, Mexico, north to Alaska.

Etymology: The specific name *arcanum* is derived from the Latin adjective *arcanus*, meaning "hidden," or "secret," referring to long hidden distinctiveness of this species.

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